

The diagram shows a differential amplifier circuit. The input stage consists of a differential pair of NMOS transistors (15, 17) and PMOS transistors (16, 18). The PMOS transistors are biased by an 8mA current source (14) connected to a common source (19). The NMOS transistors are biased by an 8mA current source (19) connected to ground. The differential pair is loaded with a current mirror (3, 4) and a differential-to-single-ended converter (5, 6). The current mirror consists of two PMOS transistors (3, 4) with a 50ohm resistor (7) in the tail. The differential-to-single-ended converter consists of two NMOS transistors (5, 6) with 50ohm resistors (12, 13) in the tails. The output of the converter is taken from the drain of transistor 5. The input signal is applied to the gates of transistors 15 and 17. The output signal is taken from the drain of transistor 5. The circuit is labeled with various components and their values: 14 (8mA), 15, 16, 17, 18, 19 (8mA), 20, 21, 3, 4, 5, 6, 7 (50ohm), 8 (1.2V), 12 (50ohm), 13 (50ohm).

Fig. 2

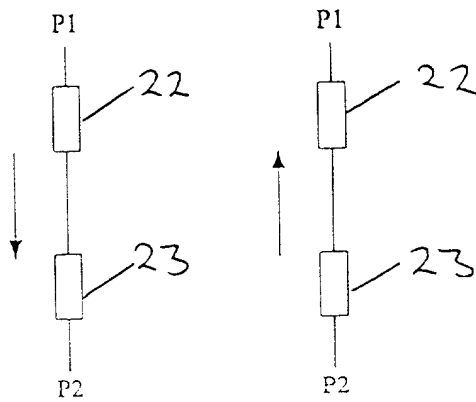


Fig. 3

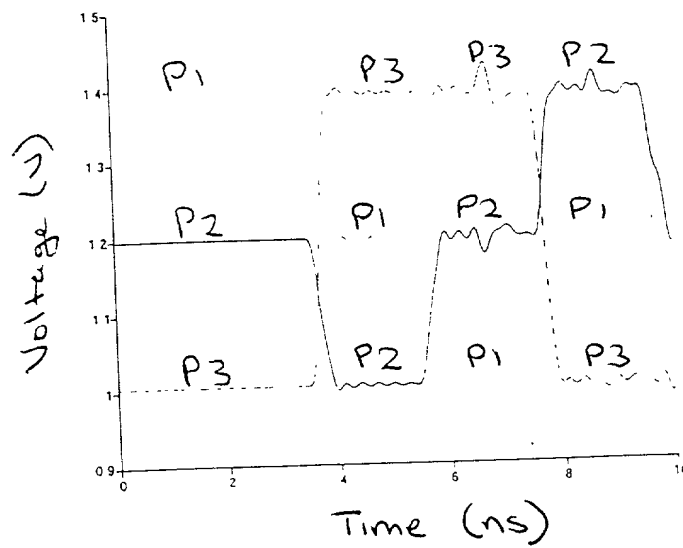


Fig 7

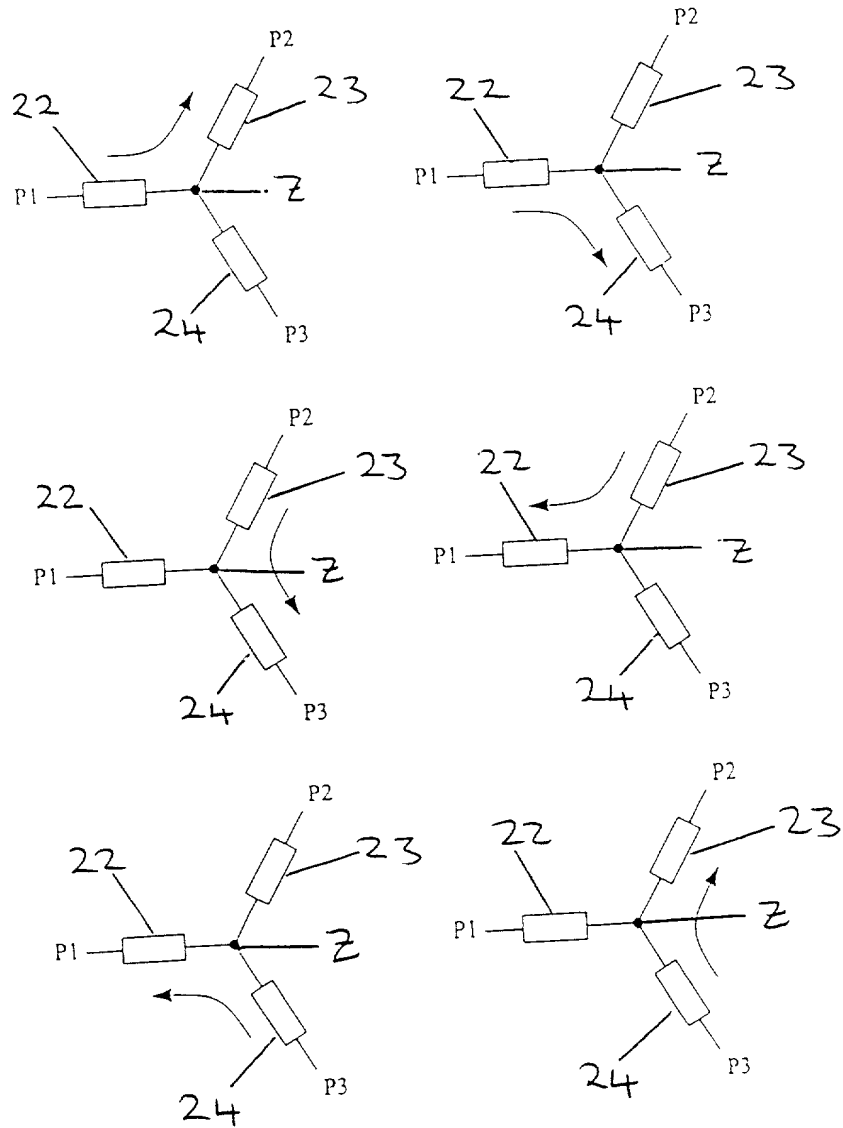


Fig. 4

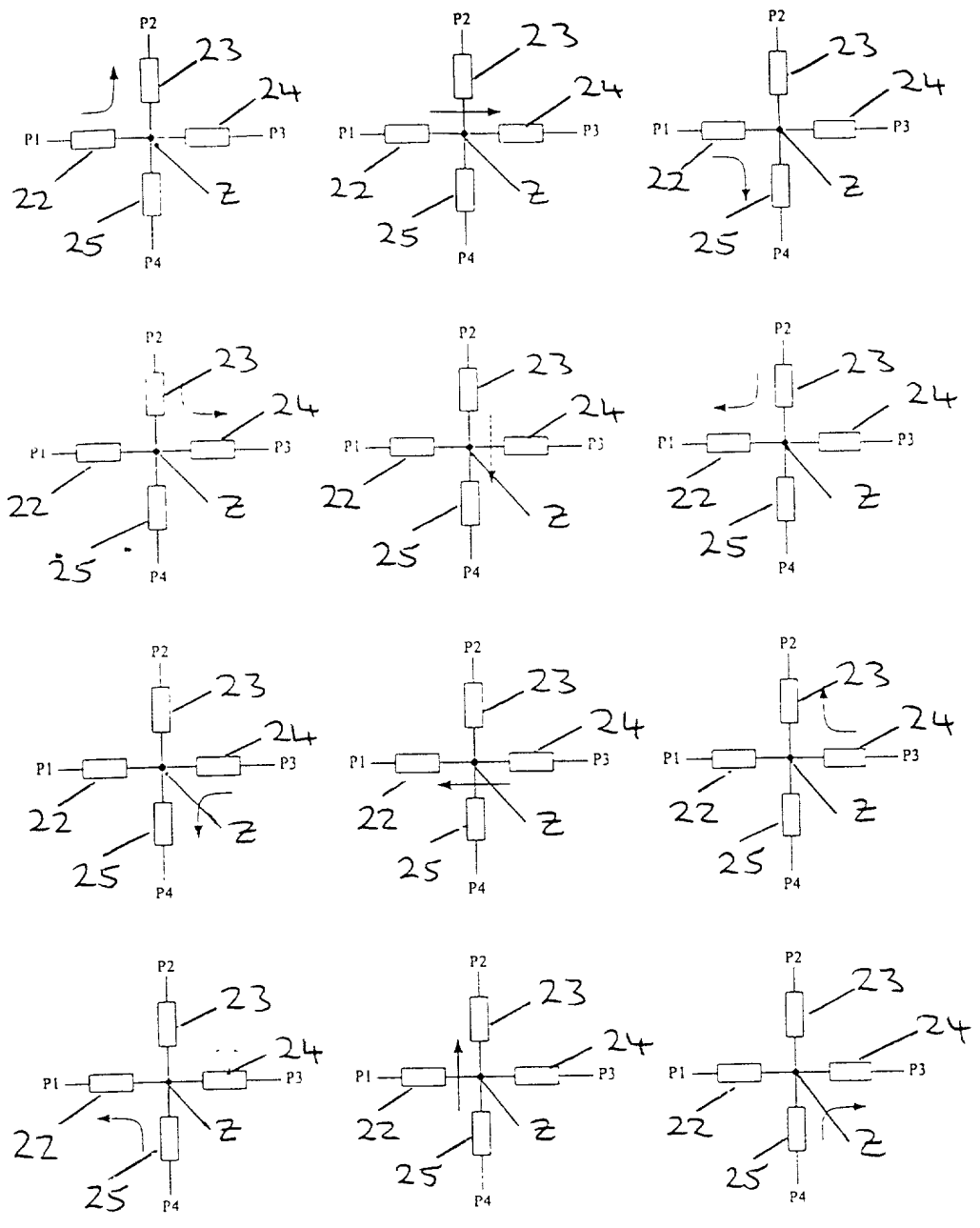


Fig. 5

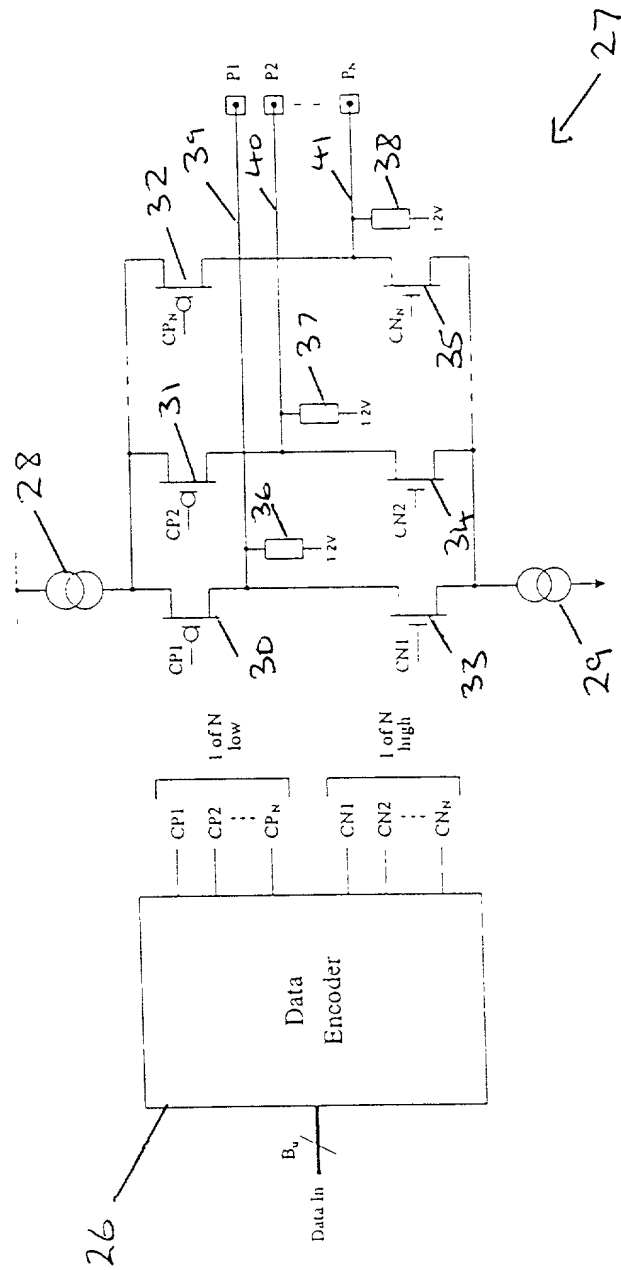


Fig. 6

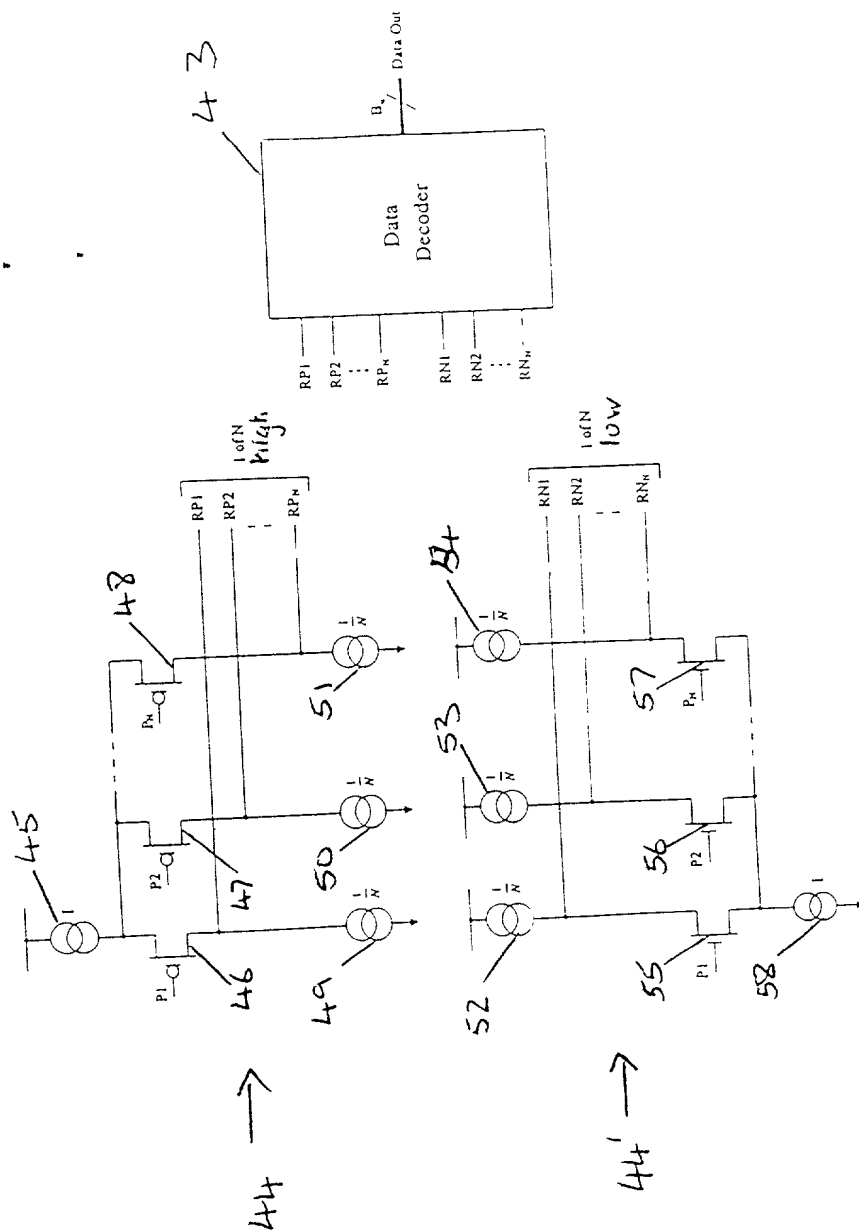


Fig. 8